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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 348 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
(B) LOCATION: 14..325

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGAATTCCTA ATA ATG TCC GTA CAA GTA GAA ACC ATC TCC CCA GGA GAC	49
Met Ser Val Gln Val Glu Thr Ile Ser Pro Gly Asp	
1 5 10	
GGG CGC ACC TTC CCC AAG CGC GGC CAG ACC TGC GTG GTG CAC TAC ACC	97
Gly Arg Thr Phe Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr	
15 20 25	
GGG ATG CTT GAA GAT GGA AAG AAA TTT GAT TCC TCC CGT GAC CGT AAC	145
Gly Met Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn	
30 35 40	
AAG CCC TTT AAG TTT ATG CTA GGC AAG CAG GAG GTG ATC CGA GGC TGG	193
Lys Pro Phe Lys Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp	
45 50 55 60	
GAA GAA GGG GTT GCC CAG ATG AGT GTG GGT CAG CGT GCC AAA CTG ACT	241
Glu Glu Gly Val Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr	
65 70 75	
ATA TCT CCA GAT TAT GCC TAT GGT GCC ACT GGG CAC CCA GGC ATC ATC	289
Ile Ser Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile	
80 85 90	
CCA CCA CAT GCC ACT CTC GTC TTC GAT GTG GAG CTT CTAAACTGG	335
Pro Pro His Ala Thr Leu Val Phe Asp Val Glu Leu	
95 100	
AATGACGGGA TCC	348

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7943 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: both
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
(B) LOCATION: 80..7726

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

ACGGGGCCTG AAGCGGCGGT ACCGGTGCTG GCGGCGGCAG CTGAGGCCTT GGCCGAAGCC	60
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	GCGCGAACCT CAGGGCAAG	ATG CTT GGA ACC GGA CCT GCC GCC GCC ACC ACC	112
		Met Leu Gly Thr Gly Pro Ala Ala Ala Thr Thr	
		1 5 10	
5	GCT GCC ACC ACA TCT AGC AAT GTG AGC GTC CTG CAG CAG TTT GCC AGT	160	
	Ala Ala Thr Thr Ser Ser Asn Val Ser Val Leu Gln Gln Phe Ala Ser		
	15 20 25		
10	GGC CTA AAG AGC CGG AAT GAG GAA ACC AGG GCC AAA GCC GCC AAG GAG	208	
	Gly Leu Lys Ser Arg Asn Glu Glu Thr Arg Ala Lys Ala Ala Lys Glu		
	30 35 40		
15	CTC CAG CAC TAT GTC ACC ATG GAA CTC CGA GAG ATG AGT CAA GAG GAG	256	
	Leu Gln His Tyr Val Thr Met Glu Leu Arg Glu Met Ser Gln Glu Glu		
	45 50 55		
20	TCT ACT CGC TTC TAT GAC CAA CTG AAC CAT CAC ATT TTT GAA TTG GTT	304	
	Ser Thr Arg Phe Tyr Asp Gln Leu Asn His His Ile Phe Glu Leu Val		
	60 65 70 75		
25	TCC AGC TCA GAT GCC AAT GAG AGG AAA GGT GGC ATC TTG GCC ATA GCT	352	
	Ser Ser Ser Asp Ala Asn Glu Arg Lys Gly Gly Ile Leu Ala Ile Ala		
	80 85 90		
30	AGC CTC ATA GGA GTG GAA GGT GGG AAT GCC ACC CGA ATT GGC AGA TTT	400	
	Ser Leu Ile Gly Val Glu Gly Gly Asn Ala Thr Arg Ile Gly Arg Phe		
	95 100 105		
35	GCC AAC TAT CTT CGG AAC CTC CTC CCC TCC AAT GAC CCA GTT GTC ATG	448	
	Ala Asn Tyr Leu Arg Asn Leu Leu Pro Ser Asn Asp Pro Val Val Met		
	110 115 120		
40	GAA ATG GCA TCC AAG GCC ATT GGC CGT CTT GCC ATG GCA GGG GAC ACT	496	
	Glu Met Ala Ser Lys Ala Ile Gly Arg Leu Ala Met Ala Gly Asp Thr		
	125 130 135		
45	TTT ACC GCT GAG TAC GTG GAA TTT GAG GTG AAG CGA GCC CTG GAA TGG	544	
	Phe Thr Ala Glu Tyr Val Glu Phe Glu Val Lys Arg Ala Leu Glu Trp		
	140 145 150 155		
50	CTG GGT GCT GAC CGC AAT GAG GGC CGG AGA CAT GCA GCT GTC CTG GTT	592	
	Leu Gly Ala Asp Arg Asn Glu Gly Arg Arg His Ala Ala Val Leu Val		
	160 165 170		
55	CTC CGT GAG CTG GCC ATC AGC GTC CCT ACC TTC TTC TTC CAG CAA GTG	640	
	Leu Arg Glu Leu Ala Ile Ser Val Pro Thr Phe Phe Phe Gln Gln Val		
	175 180 185		
60	CAA CCC TTC TTT GAC AAC ATT TTT GTG GCC GTG TGG GAC CCC AAA CAG	688	
	Gln Pro Phe Phe Asp Asn Ile Phe Val Ala Val Trp Asp Pro Lys Gln		
	190 195 200		
65	GCC ATC CGT GAG GGA GCT GTA GCC GCC CTT CGT GCC TGT CTG ATT CTC	736	
	Ala Ile Arg Glu Gly Ala Val Ala Ala Leu Arg Ala Cys Leu Ile Leu		
	205 210 215		
70	ACA ACC CAG CGT GAG CCG AAG GAG ATG CAG AAG CCT CAG TGG TAC AGG	784	
	Thr Thr Gln Arg Glu Pro Lys Glu Met Gln Lys Pro Gln Trp Tyr Arg		
	220 225 230 235		
75	CAC ACA TTT GAA GAA GCA GAG AAG GGA TTT GAT GAG ACC TTG GCC AAA	832	
	His Thr Phe Glu Glu Ala Glu Lys Gly Phe Asp Glu Thr Leu Ala Lys		
	240 245 250		
80	GAG AAG GGC ATG AAT CGG GAT GAT CGG ATC CAT GGA GCC TTG TTG ATC	880	
	Glu Lys Gly Met Asn Arg Asp Asp Arg Ile His Gly Ala Leu Leu Ile		
	255 260 265		
85	CTT AAC GAG CTG GTC CGA ATC AGC AGC ATG GAG GGA GAG CGT CTG AGA	928	
	Leu Asn Glu Leu Val Arg Ile Ser Ser Met Glu Gly Glu Arg Leu Arg		
	270 275 280		

	GAA	GAA	ATG	GAA	GAA	ATC	ACA	CAG	CAG	CAG	CTG	GTA	CAC	GAC	AAG	TAC	976
	Glu	Glu	Met	Glu	Glu	Ile	Thr	Gln	Gln	Gln	Leu	Val	His	Asp	Lys	Tyr	
5		285					290					295					
	TGC	AAA	GAT	CTC	ATG	GGC	TTC	GGA	ACA	AAA	CCT	CGT	CAC	ATT	ACC	CCC	1024
	Cys	Lys	Asp	Leu	Met	Gly	Phe	Gly	Thr	Lys	Pro	Arg	His	Ile	Thr	Pro	
	300					305					310					315	
10	TTC	ACC	AGT	TTC	CAG	GCT	GTA	CAG	CCC	CAG	CAG	TCA	AAT	GCC	TTG	GTG	1072
	Phe	Thr	Ser	Phe	Gln	Ala	Val	Gln	Pro	Gln	Gln	Ser	Asn	Ala	Leu	Val	
					320					325					330		
15	GGG	CTG	CTG	GGG	TAC	AGC	TCT	CAC	CAA	GGC	CTC	ATG	GGA	TTT	GGG	ACC	1120
	Gly	Leu	Leu	Gly	Tyr	Ser	Ser	His	Gln	Gly	Leu	Met	Gly	Phe	Gly	Thr	
				335					340					345			
20	TCC	CCC	AGT	CCA	GCT	AAG	TCC	ACC	CTG	GTG	GAG	AGC	CGG	TGT	TGC	AGA	1168
	Ser	Pro	Ser	Pro	Ala	Lys	Ser	Thr	Leu	Val	Glu	Ser	Arg	Cys	Cys	Arg	
			350					355					360				
	GAC	TTG	ATG	GAG	GAG	AAA	TTT	GAT	CAG	GTG	TGC	CAG	TGG	GTG	CTG	AAA	1216
	Asp	Leu	Met	Glu	Glu	Lys	Phe	Asp	Gln	Val	Cys	Gln	Trp	Val	Leu	Lys	
		365					370					375					
25	TGC	AGG	AAT	AGC	AAG	AAC	TCG	CTG	ATC	CAA	ATG	ACA	ATC	CTT	AAT	TTG	1264
	Cys	Arg	Asn	Ser	Lys	Asn	Ser	Leu	Ile	Gln	Met	Thr	Ile	Leu	Asn	Leu	
	380					385					390					395	
30	TTG	CCC	CGC	TTG	GCT	GCA	TTC	CGA	CCT	TCT	GCC	TTC	ACA	GAT	ACC	CAG	1312
	Leu	Pro	Arg	Leu	Ala	Ala	Phe	Arg	Pro	Ser	Ala	Phe	Thr	Asp	Thr	Gln	
					400					405					410		
35	TAT	CTC	CAA	GAT	ACC	ATG	AAC	CAT	GTC	CTA	AGC	TGT	GTC	AAG	AAG	GAG	1360
	Tyr	Leu	Gln	Asp	Thr	Met	Asn	His	Val	Leu	Ser	Cys	Val	Lys	Lys	Glu	
				415					420					425			
40	AAG	GAA	CGT	ACA	GCG	GCC	TTC	CAA	GCC	CTG	GGG	CTA	CTT	TCT	GTG	GCT	1408
	Lys	Glu	Arg	Thr	Ala	Ala	Phe	Gln	Ala	Leu	Gly	Leu	Leu	Ser	Val	Ala	
			430				435						440				
45	GTG	AGG	TCT	GAG	TTT	AAG	GTC	TAT	TTG	CCT	CGC	GTG	CTG	GAC	ATC	ATC	1456
	Val	Arg	Ser	Glu	Phe	Lys	Val	Tyr	Leu	Pro	Arg	Val	Leu	Asp	Ile	Ile	
		445					450					455					
50	CGA	GCG	GCC	CTG	CCC	CCA	AAG	GAC	TTC	GCC	CAT	AAG	AGG	CAG	AAG	GCA	1504
	Arg	Ala	Ala	Leu	Pro	Pro	Lys	Asp	Phe	Ala	His	Lys	Arg	Gln	Lys	Ala	
	460					465					470					475	
55	ATG	CAG	GTG	GAC	GCC	ACA	GTC	TTC	ACT	TGC	ATC	AGC	ATG	CTG	GCT	CGA	1552
	Met	Gln	Val	Asp	Ala	Thr	Val	Phe	Thr	Cys	Ile	Ser	Met	Leu	Ala	Arg	
					480					485					490		
60	GCA	ATG	GGG	CCA	GGC	ATC	CAG	CAG	GAT	ATC	AAG	GAG	CTG	CTG	GAG	CCC	1600
	Ala	Met	Gly	Pro	Gly	Ile	Gln	Gln	Asp	Ile	Lys	Glu	Leu	Leu	Glu	Pro	
				495					500					505			
65	ATG	CTG	GCA	GTG	GGA	CTA	AGC	CCT	GCC	CTC	ACT	GCA	GTG	CTC	TAC	GAC	1648
	Met	Leu	Ala	Val	Gly	Leu	Ser	Pro	Ala	Leu	Thr	Ala	Val	Leu	Tyr	Asp	
			510					515					520				
70	CTG	AGC	CGT	CAG	ATT	CCA	CAG	CTA	AAG	AAG	GAC	ATT	CAA	GAT	GGG	CTA	1696
	Leu	Ser	Arg	Gln	Ile	Pro	Gln	Leu	Lys	Lys	Asp	Ile	Gln	Asp	Gly	Leu	
		525					530					535					
75	CTG	AAA	ATG	CTG	TCC	CTG	GTC	CTT	ATG	CAC	AAA	CCC	CTT	CGC	CAC	CCA	1744
	Leu	Lys	Met	Leu	Ser	Leu	Val	Leu	Met	His	Lys	Pro	Leu	Arg	His	Pro	
	540					545					550					555	
80	GGC	ATG	CCC	AAG	GGC	CTG	GCC	CAT	CAG	CTG	GCC	TCT	CCT	GGC	CTC	ACG	1792
	Gly	Met	Pro	Lys	Gly	Leu	Ala	His	Gln	Leu	Ala	Ser	Pro	Gly	Leu	Thr	

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	560								565					570				
5	ACC	CTC	CCT	GAG	GCC	AGC	GAT	GTG	GGC	AGC	ATC	ACT	CTT	GCC	CTC	CGA	1840	
	Thr	Leu	Pro	Glu	Ala	Ser	Asp	Val	Gly	Ser	Ile	Thr	Leu	Ala	Leu	Arg		
				575					580					585				
10	ACG	CTT	GGC	AGC	TTT	GAA	TTT	GAA	GGC	CAC	TCT	CTG	ACC	CAA	TTT	GTT	1888	
	Thr	Leu	Gly	Ser	Phe	Glu	Phe	Glu	Gly	His	Ser	Leu	Thr	Gln	Phe	Val		
			590					595					600					
15	CGC	CAC	TGT	GCG	GAT	CAT	TTC	CTG	AAC	AGT	GAG	CAC	AAG	GAG	ATC	CGC	1936	
	Arg	His	Cys	Ala	Asp	His	Phe	Leu	Asn	Ser	Glu	His	Lys	Glu	Ile	Arg		
		605					610					615						
20	ATG	GAG	GCT	GCC	CGC	ACC	TGC	TCC	CGC	CTG	CTC	ACA	CCC	TCC	ATC	CAC	1984	
	Met	Glu	Ala	Ala	Arg	Thr	Cys	Ser	Arg	Leu	Leu	Thr	Pro	Ser	Ile	His		
		620				625					630					635		
25	CTC	ATC	AGT	GGC	CAT	GCT	CAT	GTG	GTT	AGC	CAG	ACC	GCA	GTG	CAA	GTG	2032	
	Leu	Ile	Ser	Gly	His	Ala	His	Val	Val	Ser	Gln	Thr	Ala	Val	Gln	Val		
					640					645					650			
30	GTG	GCA	GAT	GTG	CTT	AGC	AAA	CTG	CTC	GTA	GTT	GGG	ATA	ACA	GAT	CCT	2080	
	Val	Ala	Asp	Val	Leu	Ser	Lys	Leu	Leu	Val	Val	Gly	Ile	Thr	Asp	Pro		
				655				660					665					
35	GAC	CCT	GAC	ATT	CGC	TAC	TGT	GTC	TTG	GCG	TCC	CTG	GAC	GAG	CGC	TTT	2128	
	Asp	Pro	Asp	Ile	Arg	Tyr	Cys	Val	Leu	Ala	Ser	Leu	Asp	Glu	Arg	Phe		
			670				675						680					
40	GAT	GCA	CAC	CTG	GCC	CAG	GCG	GAG	AAC	TTG	CAG	GCC	TTG	TTT	GTG	GCT	2176	
	Asp	Ala	His	Leu	Ala	Gln	Ala	Glu	Asn	Leu	Gln	Ala	Leu	Phe	Val	Ala		
		685				690						695						
45	CTG	AAT	GAC	CAG	GTG	TTT	GAG	ATC	CGG	GAG	CTG	GCC	ATC	TGC	ACT	GTG	2224	
	Leu	Asn	Asp	Gln	Val	Phe	Glu	Ile	Arg	Glu	Leu	Ala	Ile	Cys	Thr	Val		
		700				705					710					715		
50	GGC	CGA	CTC	AGT	AGC	ATG	AAC	CCT	GCC	TTT	GTC	ATG	CCT	TTC	CTG	CGC	2272	
	Gly	Arg	Leu	Ser	Ser	Met	Asn	Pro	Ala	Phe	Val	Met	Pro	Phe	Leu	Arg		
					720					725					730			
55	AAG	ATG	CTC	ATC	CAG	ATT	TTG	ACA	GAG	TTG	GAG	CAC	AGT	GGG	ATT	GGA	2320	
	Lys	Met	Leu	Ile	Gln	Ile	Leu	Thr	Glu	Leu	Glu	His	Ser	Gly	Ile	Gly		
				735					740					745				
60	AGA	ATC	AAA	GAG	CAG	AGT	GCC	CGC	ATG	CTG	GGG	CAC	CTG	GTC	TCC	AAT	2368	
	Arg	Ile	Lys	Glu	Gln	Ser	Ala	Arg	Met	Leu	Gly	His	Leu	Val	Ser	Asn		
			750					755					760					
65	GCC	CCC	CGA	CTC	ATC	CGC	CCC	TAC	ATG	GAG	CCT	ATT	CTG	AAG	GCA	TTA	2416	
	Ala	Pro	Arg	Leu	Ile	Arg	Pro	Tyr	Met	Glu	Pro	Ile	Leu	Lys	Ala	Leu		
		765					770					775						
70	ATT	TTG	AAA	CTG	AAA	GAT	CCA	GAC	CCT	GAT	CCA	AAC	CCA	GGT	GTG	ATC	2464	
	Ile	Leu	Lys	Leu	Lys	Asp	Pro	Asp	Pro	Asp	Pro	Asn	Pro	Gly	Val	Ile		
		780				785				790						795		
75	AAT	AAT	GTC	CTG	GCA	ACA	ATA	GGA	GAA	TTG	GCA	CAG	GTT	AGT	GGC	CTG	2512	
	Asn	Asn	Val	Leu	Ala	Thr	Ile	Gly	Glu	Leu	Ala	Gln	Val	Ser	Gly	Leu		
					800					805					810			
80	GAA	ATG	AGG	AAA	TGG	GTT	GAT	GAA	CTT	TTT	ATT	ATC	ATC	ATG	GAC	ATG	2560	
	Glu	Met	Arg	Lys	Trp	Val	Asp	Glu	Leu	Phe	Ile	Ile	Ile	Met	Asp	Met		
				815					820					825				
85	CTC	CAG	GAT	TCC	TCT	TTG	TTG	GCC	AAA	AGG	CAG	GTG	GCT	CTG	TGG	ACC	2608	
	Leu	Gln	Asp	Ser	Ser	Leu	Leu	Ala	Lys	Arg	Gln	Val	Ala	Leu	Trp	Thr		
			830					835					840					
90	CTG	GGA	CAG	TTG	GTG	GCC	AGC	ACT	GGC	TAT	GTA	GTA	GAG	CCC	TAC	AGG	2656	

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	Leu	Gly	Gln	Leu	Val	Ala	Ser	Thr	Gly	Tyr	Val	Val	Glu	Pro	Tyr	Arg	
	845						850					855					
5	AAG	TAC	CCT	ACT	TTG	CTT	GAG	GTG	CTA	CTG	AAT	TTT	CTG	AAG	ACT	GAG	2704
	Lys	Tyr	Pro	Thr	Leu	Leu	Glu	Val	Leu	Leu	Asn	Phe	Leu	Lys	Thr	Glu	
	860					865					870					875	
10	CAG	AAC	CAG	GGT	ACA	CGC	AGA	GAG	GCC	ATC	CGT	GTG	TTA	GGG	CTT	TTA	2752
	Gln	Asn	Gln	Gly	Thr	Arg	Arg	Glu	Ala	Ile	Arg	Val	Leu	Gly	Leu	Leu	
					880					885					890		
15	GGG	GCT	TTG	GAT	CCT	TAC	AAG	CAC	AAA	GTG	AAC	ATT	GGC	ATG	ATA	GAC	2800
	Gly	Ala	Leu	Asp	Pro	Tyr	Lys	His	Lys	Val	Asn	Ile	Gly	Met	Ile	Asp	
				895					900					905			
20	CAG	TCC	CGG	GAT	GCC	TCT	GCT	GTC	AGC	CTG	TCA	GAA	TCC	AAG	TCA	AGT	2848
	Gln	Ser	Arg	Asp	Ala	Ser	Ala	Val	Ser	Leu	Ser	Glu	Ser	Lys	Ser	Ser	
			910					915					920				
25	CAG	GAT	TCC	TCT	GAC	TAT	AGC	ACT	AGT	GAA	ATG	CTG	GTC	AAC	ATG	GGA	2896
	Gln	Asp	Ser	Ser	Asp	Tyr	Ser	Thr	Ser	Glu	Met	Leu	Val	Asn	Met	Gly	
		925					930					935					
30	AAC	TTG	CCT	CTG	GAT	GAG	TTC	TAC	CCA	GCT	GTG	TCC	ATG	GTG	GCC	CTG	2944
	Asn	Leu	Pro	Leu	Asp	Glu	Phe	Tyr	Pro	Ala	Val	Ser	Met	Val	Ala	Leu	
		940				945					950					955	
35	ATG	CGG	ATC	TTC	CGA	GAC	CAG	TCA	CTC	TCT	CAT	CAT	CAC	ACC	ATG	GTT	2992
	Met	Arg	Ile	Phe	Arg	Asp	Gln	Ser	Leu	Ser	His	His	His	Thr	Met	Val	
					960					965					970		
40	GTC	CAG	GCC	ATC	ACC	TTC	ATC	TTC	AAG	TCC	CTG	GGA	CTC	AAA	TGT	GTG	3040
	Val	Gln	Ala	Ile	Thr	Phe	Ile	Phe	Lys	Ser	Leu	Gly	Leu	Lys	Cys	Val	
				975					980					985			
45	CAG	TTC	CTG	CCC	CAG	GTC	ATG	CCC	ACG	TTC	CTT	AAT	GTC	ATT	CGA	GTC	3088
	Gln	Phe	Leu	Pro	Gln	Val	Met	Pro	Thr	Phe	Leu	Asn	Val	Ile	Arg	Val	
			990					995					1000				
50	TGT	GAT	GGG	GCC	ATC	CGG	GAA	TTT	TTG	TTC	CAG	CAG	CTG	GGA	ATG	TTG	3136
	Cys	Asp	Gly	Ala	Ile	Arg	Glu	Phe	Leu	Phe	Gln	Gln	Leu	Gly	Met	Leu	
		1005					1010					1015					
55	GTG	TCC	TTT	GTG	AAG	AGC	CAC	ATC	AGA	CCT	TAT	ATG	GAT	GAA	ATA	GTC	3184
	Val	Ser	Phe	Val	Lys	Ser	His	Ile	Arg	Pro	Tyr	Met	Asp	Glu	Ile	Val	
		1020				1025					1030					1035	
60	ACC	CTC	ATG	AGA	GAA	TTC	TGG	GTC	ATG	AAC	ACC	TCA	ATT	CAG	AGC	ACG	3232
	Thr	Leu	Met	Arg	Glu	Phe	Trp	Val	Met	Asn	Thr	Ser	Ile	Gln	Ser	Thr	
					1040					1045					1050		
65	ATC	ATT	CTT	CTC	ATT	GAG	CAA	ATT	GTG	GTA	GCT	CTT	GGG	GGT	GAA	TTT	3280
	Ile	Ile	Leu	Leu	Ile	Glu	Gln	Ile	Val	Val	Ala	Leu	Gly	Gly	Glu	Phe	
				1055					1060					1065			
70	AAG	CTC	TAC	CTG	CCC	CAG	CTG	ATC	CCA	CAC	ATG	CTG	CGT	GTC	TTC	ATG	3328
	Lys	Leu	Tyr	Leu	Pro	Gln	Leu	Ile	Pro	His	Met	Leu	Arg	Val	Phe	Met	
			1070					1075					1080				
75	CAT	GAC	AAC	AGC	CCA	GGC	CGC	ATT	GTC	TCT	ATC	AAG	TTA	CTG	GCT	GCA	3376
	His	Asp	Asn	Ser	Pro	Gly	Arg	Ile	Val	Ser	Ile	Lys	Leu	Leu	Ala	Ala	
			1085				1090					1095					
80	ATC	CAG	CTG	TTT	GGC	GCC	AAC	CTG	GAT	GAC	TAC	CTG	CAT	TTA	CTG	CTG	3424
	Ile	Gln	Leu	Phe	Gly	Ala	Asn	Leu	Asp	Asp	Tyr	Leu	His	Leu	Leu	Leu	
		1100				1105					1110					1115	
85	CCT	CCT	ATT	GTT	AAG	TTG	TTT	GAT	GCC	CCT	GAA	GCT	CCA	CTG	CCA	TCT	3472
	Pro	Pro	Ile	Val	Lys	Leu	Phe	Asp	Ala	Pro	Glu	Ala	Pro	Leu	Pro	Ser	
					1120					1125						1130	

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	CGA	AAG	GCA	GCG	CTA	GAG	ACT	GTG	GAC	CGC	CTG	ACG	GAG	TCC	CTG	GAT	3520
	Arg	Lys	Ala	Ala	Leu	Glu	Thr	Val	Asp	Arg	Leu	Thr	Glu	Ser	Leu	Asp	
				1135					1140					1145			
5	TTC	ACT	GAC	TAT	GCC	TCC	CGG	ATC	ATT	CAC	CCT	ATT	GTT	CGA	ACA	CTG	3568
	Phe	Thr	Asp	Tyr	Ala	Ser	Arg	Ile	Ile	His	Pro	Ile	Val	Arg	Thr	Leu	
			1150					1155					1160				
10	GAC	CAG	AGC	CCA	GAA	CTG	CGC	TCC	ACA	GCC	ATG	GAC	ACG	CTG	TCT	TCA	3616
	Asp	Gln	Ser	Pro	Glu	Leu	Arg	Ser	Thr	Ala	Met	Asp	Thr	Leu	Ser	Ser	
		1165					1170					1175					
15	CTT	GTT	TTT	CAG	CTG	GGG	AAG	AAG	TAC	CAA	ATT	TTC	ATT	CCA	ATG	GTG	3664
	Leu	Val	Phe	Gln	Leu	Gly	Lys	Lys	Tyr	Gln	Ile	Phe	Ile	Pro	Met	Val	
	1180					1185					1190					1195	
20	AAT	AAA	GTT	CTG	GTG	CGA	CAC	CGA	ATC	AAT	CAT	CAG	CGC	TAT	GAT	GTG	3712
	Asn	Lys	Val	Leu	Val	Arg	His	Arg	Ile	Asn	His	Gln	Arg	Tyr	Asp	Val	
					1200					1205					1210		
25	CTC	ATC	TGC	AGA	ATT	GTC	AAG	GGA	TAC	ACA	CTT	GCT	GAT	GAA	GAG	GAG	3760
	Leu	Ile	Cys	Arg	Ile	Val	Lys	Gly	Tyr	Thr	Leu	Ala	Asp	Glu	Glu	Glu	
				1215					1220					1225			
30	GAT	CCT	TTG	ATT	TAC	CAG	CAT	CGG	ATG	CTT	AGG	AGT	GGC	CAA	GGG	GAT	3808
	Asp	Pro	Leu	Ile	Tyr	Gln	His	Arg	Met	Leu	Arg	Ser	Gly	Gln	Gly	Asp	
			1230					1235					1240				
35	GCA	TTG	GCT	AGT	GGA	CCA	GTG	GAA	ACA	GGA	CCC	ATG	AAG	AAA	CTG	CAC	3856
	Ala	Leu	Ala	Ser	Gly	Pro	Val	Glu	Thr	Gly	Pro	Met	Lys	Lys	Leu	His	
		1245					1250					1255					
40	GTC	AGC	ACC	ATC	AAC	CTC	CAA	AAG	GCC	TGG	GGC	GCT	GCC	AGG	AGG	GTC	3904
	Val	Ser	Thr	Ile	Asn	Leu	Gln	Lys	Ala	Trp	Gly	Ala	Ala	Arg	Arg	Val	
	1260					1265					1270					1275	
45	TCC	AAA	GAT	GAC	TGG	CTG	GAA	TGG	CTG	AGA	CGG	CTG	AGC	CTG	GAG	CTG	3952
	Ser	Lys	Asp	Asp	Trp	Leu	Glu	Trp	Leu	Arg	Arg	Leu	Ser	Leu	Glu	Leu	
					1280					1285					1290		
50	CTG	AAG	GAC	TCA	TCA	TCG	CCC	TCC	CTG	CGC	TCC	TGC	TGG	GCC	CTG	GCA	4000
	Leu	Lys	Asp	Ser	Ser	Pro	Ser	Ser	Leu	Arg	Ser	Cys	Trp	Ala	Leu	Ala	
				1295					1300					1305			
55	CAG	GCC	TAC	AAC	CCG	ATG	GCC	AGG	GAT	CTC	TTC	AAT	GCT	GCA	TTT	GTG	4048
	Gln	Ala	Tyr	Asn	Pro	Met	Ala	Arg	Asp	Leu	Phe	Asn	Ala	Ala	Phe	Val	
			1310				1315						1320				
60	TCC	TGC	TGG	TCT	GAA	CTG	AAT	GAA	GAT	CAA	CAG	GAT	GAG	CTC	ATC	AGA	4096
	Ser	Cys	Trp	Ser	Glu	Leu	Asn	Glu	Asp	Gln	Gln	Asp	Glu	Leu	Ile	Arg	
			1325				1330					1335					
65	AGC	ATC	GAG	TTG	GCC	CTC	ACC	TCA	CAA	GAC	ATC	GCT	GAA	GTC	ACA	CAG	4144
	Ser	Ile	Glu	Leu	Ala	Leu	Thr	Ser	Gln	Asp	Ile	Ala	Glu	Val	Thr	Gln	
	1340					1345				1350						1355	
70	ACC	CTC	TTA	AAC	TTG	GCT	GAA	TTC	ATG	GAA	CAC	AGT	GAC	AAG	GGC	CCC	4192
	Thr	Leu	Leu	Asn	Leu	Glu	Phe	Met	Glu	His	Ser	Asp	Lys	Gly	Pro		
				1360					1365					1370			
75	CTG	CCA	CTG	AGA	GAT	GAC	AAT	GGC	ATT	GTT	CTG	CTG	GGT	GAG	AGA	GCT	4240
	Leu	Pro	Leu	Arg	Asp	Asp	Asn	Gly	Ile	Val	Leu	Leu	Gly	Glu	Arg	Ala	
				1375				1380						1385			
80	GCC	AAG	TGC	CGA	GCA	TAT	GCC	AAA	GCA	CTA	CAC	TAC	AAA	GAA	CTG	GAG	4288
	Ala	Lys	Cys	Arg	Ala	Tyr	Ala	Lys	Ala	Leu	His	Tyr	Lys	Glu	Leu	Glu	
			1390				1395						1400				
85	TTC	CAG	AAA	GGC	CCC	ACC	CCT	GCC	ATT	CTA	GAA	TCT	CTC	ATC	AGC	ATT	4336
	Phe	Gln	Lys	Gly	Pro	Thr	Pro	Ala	Ile	Leu	Glu	Ser	Leu	Ile	Ser	Ile	
		1405					1410					1415					

5	AAT AAT AAG CTA CAG CAG CCG GAG GCA GCG GCC GGA GTG TTA GAA TAT	4384
	Asn Asn Lys Leu Gln Gln Pro Glu Ala Ala Ala Gly Val Leu Glu Tyr	
	1420 1425 1430 1435	
10	GCC ATG AAA CAC TTT GGA GAG CTG GAG ATC CAG GCT ACC TGG TAT GAG	4432
	Ala Met Lys His Phe Gly Glu Leu Glu Ile Gln Ala Thr Trp Tyr Glu	
	1440 1445 1450	
15	AAA CTG CAC GAG TGG GAG GAT GCC CTT GTG GCC TAT GAC AAG AAA ATG	4480
	Lys Leu His Glu Trp Glu Asp Ala Leu Val Ala Tyr Asp Lys Lys Met	
	1455 1460 1465	
20	GAC ACC AAC AAG GAC GAC CCA GAG CTG ATG CTG GGC CGC ATG CGC TGC	4528
	Asp Thr Asn Lys Asp Asp Pro Glu Leu Met Leu Gly Arg Met Arg Cys	
	1470 1475 1480	
25	CTC GAG GCC TTG GGG GAA TGG GGT CAA CTC CAC CAG CAG TGC TGT GAA	4576
	Leu Glu Ala Leu Gly Glu Trp Gly Gln Leu His Gln Gln Cys Cys Glu	
	1485 1490 1495	
30	AAG TGG ACC CTG GTT AAT GAT GAG ACC CAA GCC AAG ATG GCC CGG ATG	4624
	Lys Trp Thr Leu Val Asn Asp Glu Thr Gln Ala Lys Met Ala Arg Met	
	1500 1505 1510 1515	
35	GCT GCT GCA GCT GCA TGG GGT TTA GGT CAG TGG GAC AGC ATG GAA GAA	4672
	Ala Ala Ala Ala Ala Trp Gly Leu Gly Gln Trp Asp Ser Met Glu Glu	
	1520 1525 1530	
40	TAC ACC TGT ATG ATC CCT CGG GAC ACC CAT GAT GGG GCA TTT TAT AGA	4720
	Tyr Thr Cys Met Ile Pro Arg Asp Thr His Asp Gly Ala Phe Tyr Arg	
	1535 1540 1545	
45	GCT GTG CTG GCA CTG CAT CAG GAC CTC TTC TCC TTG GCA CAA CAG TGC	4768
	Ala Val Leu Ala Leu His Gln Asp Leu Phe Ser Leu Ala Gln Gln Cys	
	1550 1555 1560	
50	ATT GAC AAG GCC AGG GAC CTG CTG GAT GCT GAA TTA ACT GCA ATG GCA	4816
	Ile Asp Lys Ala Arg Asp Leu Leu Asp Ala Glu Leu Thr Ala Met Ala	
	1565 1570 1575	
55	GGA GAG AGT TAC AGT CGG GCA TAT GGG GCC ATG GTT TCT TGC CAC ATG	4864
	Gly Glu Ser Tyr Ser Arg Ala Tyr Gly Ala Met Val Ser Cys His Met	
	1580 1585 1590 1595	
60	CTG TCC GAG CTG GAG GAG GTT ATC CAG TAC AAA CTT GTC CCC GAG CGA	4912
	Leu Ser Glu Leu Glu Glu Val Ile Gln Tyr Lys Leu Val Pro Glu Arg	
	1600 1605 1610	
65	CGA GAG ATC ATC CGC CAG ATC TGG TGG GAG AGA CTG CAG GGC TGC CAG	4960
	Arg Glu Ile Ile Arg Gln Ile Trp Trp Glu Arg Leu Gln Gly Cys Gln	
	1615 1620 1625	
70	CGT ATC GTA GAG GAC TGG CAG AAA ATC CTT ATG GTG CGG TCC CTT GTG	5008
	Arg Ile Val Glu Asp Trp Gln Lys Ile Leu Met Val Arg Ser Leu Val	
	1630 1635 1640	
75	GTC AGC CCT CAT GAA GAC ATG AGA ACC TGG CTC AAG TAT GCA AGC CTG	5056
	Val Ser Pro His Glu Asp Met Arg Thr Trp Leu Lys Tyr Ala Ser Leu	
	1645 1650 1655	
80	TGC GGC AAG AGT GGC AGG CTG GCT CTT GCT CAT AAA ACT TTA GTG TTG	5104
	Cys Gly Lys Ser Gly Arg Leu Ala Leu Ala His Lys Thr Leu Val Leu	
	1660 1665 1670 1675	
85	CTC CTG GGA GTT GAT CCG TCT CGG CAA CTT GAC CAT CCT CTG CCA ACA	5152
	Leu Leu Gly Val Asp Pro Ser Arg Gln Leu Asp His Pro Leu Pro Thr	
	1680 1685 1690	
90	GTT CAC CCT CAG GTG ACC TAT GCC TAC ATG AAA AAC ATG TGG AAG AGT	5200
	Val His Pro Gln Val Thr Tyr Ala Tyr Met Lys Asn Met Trp Lys Ser	

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	1695	1700	1705	
5	GCC CGC AAG ATC GAT GCC TTC CAG CAC ATG CAG CAT TTT GTC CAG ACC Ala Arg Lys Ile Asp Ala Phe Gln His Met Gln His Phe Val Gln Thr 1710 1715 1720			5248
10	ATG CAG CAA CAG GCC CAG CAT GCC ATC GCT ACT GAG GAC CAG CAG CAT Met Gln Gln Gln Ala Gln His Ala Ile Ala Thr Glu Asp Gln Gln His 1725 1730 1735			5296
15	AAG CAG GAA CTG CAC AAG CTC ATG GCC CGA TGC TTC CTG AAA CTT GGA Lys Gln Glu Leu His Lys Leu Met Ala Arg Cys Phe Leu Lys Leu Gly 1740 1745 1750 1755			5344
20	GAG TGG CAG CTG AAT CTA CAG GGC ATC AAT GAG AGC ACA ATC CCC AAA Glu Trp Gln Leu Asn Leu Gln Gly Ile Asn Glu Ser Thr Ile Pro Lys 1760 1765 1770			5392
25	GTG CTG CAG TAC TAC AGC GCC GCC ACA GAG CAC GAC CGC AGC TGG TAC Val Leu Gln Tyr Tyr Ser Ala Ala Thr Glu His Asp Arg Ser Trp Tyr 1775 1780 1785			5440
30	AAG GCC TGG CAT GCG TGG GCA GTG ATG AAC TTC GAA GCT GTG CTA CAC Lys Ala Trp His Ala Trp Ala Val Met Asn Phe Glu Ala Val Leu His 1790 1795 1800			5488
35	TAC AAA CAT CAG AAC CAA GCC CGC GAT GAG AAG AAG AAA CTG CGT CAT Tyr Lys His Gln Asn Gln Ala Arg Asp Glu Lys Lys Lys Leu Arg His 1805 1810 1815			5536
40	GCC AGC GGG GCC AAC ATC ACC AAC GCC ACC ACT GCC GCC ACC ACG GCC Ala Ser Gly Ala Asn Ile Thr Asn Ala Thr Thr Ala Ala Thr Thr Ala 1820 1825 1830 1835			5584
45	GCC ACT GCC ACC ACC ACT GCC AGC ACC GAG GGC AGC AAC AGT GAG AGC Ala Thr Ala Thr Thr Thr Ala Ser Thr Glu Gly Ser Asn Ser Glu Ser 1840 1845 1850			5632
50	GAG GCC GAG AGC ACC GAG AAC AGC CCC ACC CCA TCG CCG CTG CAG AAG Glu Ala Glu Ser Thr Glu Asn Ser Pro Thr Pro Ser Pro Leu Gln Lys 1855 1860 1865			5680
55	AAG GTC ACT GAG GAT CTG TCC AAA ACC CTC CTG ATG TAC ACG GTG CCT Lys Val Thr Glu Asp Leu Ser Lys Thr Leu Leu Met Tyr Thr Val Pro 1870 1875 1880			5728
60	GCC GTC CAG GGC TTC TTC CGT TCC ATC TCC TTG TCA CGA GGC AAC AAC Ala Val Gln Gly Phe Phe Arg Ser Ile Ser Leu Ser Arg Gly Asn Asn 1885 1890 1895			5776
65	CTC CAG GAT ACA CTC AGA GTT CTC ACC TTA TGG TTT GAT TAT GGT CAC Leu Gln Asp Thr Leu Arg Val Leu Thr Leu Trp Phe Asp Tyr Gly His 1900 1905 1910 1915			5824
70	TGG CCA GAT GTC AAT GAG GCC TTA GTG GAG GGG GTG AAA GCC ATC CAG Trp Pro Asp Val Asn Glu Ala Leu Val Glu Gly Val Lys Ala Ile Gln 1920 1925 1930			5872
	ATT GAT ACC TGG CTA CAG GTT ATA CCT CAG CTC ATT GCA AGA ATT GAT Ile Asp Thr Trp Leu Gln Val Ile Pro Gln Leu Ile Ala Arg Ile Asp 1935 1940 1945			5920
	ACG CCC AGA CCC TTG GTG GGA CGT CTC ATT CAC CAG CTT CTC ACA GAC Thr Pro Arg Pro Leu Val Gly Arg Leu Ile His Gln Leu Leu Thr Asp 1950 1955 1960			5968
	ATT GGT CGG TAC CAC CCC CAG GCC CTC ATC TAC CCA CTG ACA GTG GCT Ile Gly Arg Tyr His Pro Gln Ala Leu Ile Tyr Pro Leu Thr Val Ala 1965 1970 1975			6016
	TCT AAG TCT ACC ACG ACA GCC CGG CAC AAT GCA GCC AAC AAG ATT CTG			6064

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AAG Lys	AAC Asn	ATG Met	TGT Cys	GAG Glu 2000	CAC His	AGC Ser	AAC Asn	ACC Thr	CTG Leu 2005	GTC Val	CAG Gln	CAG Gln	GCC Ala	ATG Met 2010	ATG Met	6112
GTG Val	AGC Ser	GAG Glu	GAG Glu 2015	CTG Leu	ATC Ile	CGA Arg	GTG Val	GCC Ala 2020	ATC Ile	CTC Leu	TGG Trp	CAT His	GAG Glu 2025	ATG Met	TGG Trp	6160
CAT His	GAA Glu	GGC Gly 2030	CTG Leu	GAA Glu	GAG Glu	GCA Ala	TCT Ser 2035	CGT Arg	TTG Leu	TAC Tyr	TTT Phe	GGG Gly 2040	GAA Glu	AGG Arg	AAC Asn	6208
GTG Val	AAA Lys 2045	GGC Gly	ATG Met	TTT Phe	GAG Glu	GTG Val 2050	CTG Leu	GAG Glu	CCC Pro	TTG Leu	CAT His 2055	GCT Ala	ATG Met	ATG Met	GAA Glu	6256
CGG Arg 2060	GGC Gly	CCC Pro	CAG Gln	ACT Thr 2065	CTG Leu	AAG Lys	GAA Glu	ACA Thr	TCC Ser	TTT Phe 2070	AAT Asn	CAG Gln	GCC Ala	TAT Tyr	GGT Gly 2075	6304
CGA Arg	GAT Asp	TTA Leu	ATG Met 2080	GAG Glu	GCC Ala	CAA Gln	GAG Glu	TGG Trp 2085	TGC Cys	AGG Arg	AAG Lys	TAC Tyr	ATG Met 2090	AAA Lys	TCA Ser	6352
GGG Gly	AAT Asn	GTC Val 2095	AAG Lys	GAC Asp	CTC Leu	ACC Thr	CAA Gln	GCC Ala 2100	TGG Trp	GAC Asp	CTC Leu	TAT Tyr 2105	TAT Tyr	CAT His	GTG Val	6400
TTC Phe	CGA Arg 2110	CGA Arg	ATC Ile	TCA Ser	AAG Lys	CAG Gln	CTG Leu 2115	CCT Pro	CAG Gln	CTC Leu	ACA Thr	TCC Ser 2120	TTA Leu	GAG Glu	CTG Leu	6448
CAA Gln 2125	TAT Tyr	GTT Val	TCC Ser	CCA Pro	AAA Lys	CTT Leu 2130	CTG Leu	ATG Met	TGC Cys	CGG Arg	GAC Asp 2135	CTT Leu	GAA Glu	TTG Leu	GCT Ala	6496
GTG Val 2140	CCA Pro	GGA Gly	ACA Thr	TAT Tyr 2145	GAC Asp	CCC Pro	AAC Asn	CAG Gln	CCA Pro 2150	ATC Ile	ATT Ile	CGC Arg	ATT Ile	CAG Gln	TCC Ser 2155	6544
ATA Ile	GCA Ala	CCG Pro	TCT Ser 2160	TTG Leu	CAA Gln	GTC Val	ATC Ile	ACA Thr 2165	TCC Ser	AAG Lys	CAG Gln	AGG Arg	CCC Pro	CGG Arg 2170	AAA Lys	6592
TTG Leu	ACA Thr	CTT Leu 2175	ATG Met	GGC Gly	AGC Ser	AAC Asn	GGA Gly 2180	CAT His	GAG Glu	TTT Phe	GTT Val	TTC Phe 2185	CTT Leu	CTA Leu	AAA Lys	6640
GGC Gly	CAT His 2190	GAA Glu	GAT Asp	CTG Leu	CGC Arg	CAG Gln	GAT Asp 2195	GAG Glu	CGT Arg	GTG Val	ATG Met	CAG Gln 2200	CTC Leu	TTC Phe	GGC Gly	6688
CTG Leu 2205	GTT Val	AAC Asn	ACC Thr	CTT Leu	CTG Leu	GCC Ala 2210	AAT Asn	GAC Asp	CCA Pro	ACA Thr	TCT Ser 2215	CTT Leu	CGG Arg	AAA Lys	AAC Asn	6736
CTC Leu 2220	AGC Ser	ATC Ile	CAG Gln	AGA Arg 2225	TAC Tyr	GCT Ala	GTC Val	ATC Ile	CCT Pro	TTA Leu 2230	TCG Ser	ACC Thr	AAC Asn	TCG Ser	GGC Gly 2235	6784
CTC Leu	ATT Ile	GGC Gly	TGG Trp 2240	GTT Val	CCC Pro	CAC His	TGT Cys	GAC Asp	ACA Thr 2245	CTG Leu	CAC His	GCC Ala	CTC Leu	ATC Ile 2250	CGG Arg	6832
GAC Asp	TAC Tyr	AGG Arg 2255	GAG Glu	AAG Lys	AAG Lys	AAG Lys	ATC Ile 2260	CTT Leu	CTC Leu	AAC Asn	ATC Ile	GAG Glu 2265	CAT His	CGC Arg	ATC Ile	6880

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	ATG	TTG	CGG	ATG	GCT	CCG	GAC	TAT	GAC	CAC	TTG	ACT	CTG	ATG	CAG	AAG	6928
	Met	Leu	Arg	Met	Ala	Pro	Asp	Tyr	Asp	His	Leu	Thr	Leu	Met	Gln	Lys	
			2270					2275					2280				
5	GTG	GAG	GTG	TTT	GAG	CAT	GCC	GTC	AAT	AAT	ACA	GCT	GGG	GAC	GAC	CTG	6976
	Val	Glu	Val	Phe	Glu	His	Ala	Val	Asn	Asn	Thr	Ala	Gly	Asp	Asp	Leu	
		2285					2290					2295					
10	GCC	AAG	CTG	CTG	TGG	CTG	AAA	AGC	CCC	AGC	TCC	GAG	GTG	TGG	TTT	GAC	7024
	Ala	Lys	Leu	Leu	Trp	Leu	Lys	Ser	Pro	Ser	Ser	Glu	Val	Trp	Phe	Asp	
		2300				2305					2310					2315	
15	CGA	AGA	ACC	AAT	TAT	ACC	CGT	TCT	TTA	GCG	GTC	ATG	TCA	ATG	GTT	GGG	7072
	Arg	Arg	Thr	Asn	Tyr	Thr	Arg	Ser	Leu	Ala	Val	Met	Ser	Met	Val	Gly	
					2320					2325						2330	
20	TAT	ATT	TTA	GGC	CTG	GGA	GAT	AGA	CAC	CCA	TCC	AAC	CTG	ATG	CTG	GAC	7120
	Tyr	Ile	Leu	Gly	Leu	Gly	Asp	Arg	His	Pro	Ser	Asn	Leu	Met	Leu	Asp	
				2335					2340						2345		
25	CGT	CTG	AGT	GGG	AAG	ATC	CTG	CAC	ATT	GAC	TTT	GGG	GAC	TGC	TTT	GAG	7168
	Arg	Leu	Ser	Gly	Lys	Ile	Leu	His	Ile	Asp	Phe	Gly	Asp	Cys	Phe	Glu	
			2350				2355						2360				
30	GTT	GCT	ATG	ACC	CGA	GAG	AAG	TTT	CCA	GAG	AAG	ATT	CCA	TTT	AGA	CTA	7216
	Val	Ala	Met	Thr	Arg	Glu	Lys	Phe	Pro	Glu	Lys	Ile	Pro	Phe	Arg	Leu	
			2365				2370					2375					
35	ACA	AGA	ATG	TTG	ACC	AAT	GCT	ATG	GAG	GTT	ACA	GGC	CTG	GAT	GGC	AAC	7264
	Thr	Arg	Met	Leu	Thr	Asn	Ala	Met	Glu	Val	Thr	Gly	Leu	Asp	Gly	Asn	
			2380			2385					2390					2395	
40	TAC	AGA	ATC	ACA	TGC	CAC	ACA	GTG	ATG	GAG	GTG	CTG	CGA	GAG	CAC	AAG	7312
	Tyr	Arg	Ile	Thr	Cys	His	Thr	Val	Met	Glu	Val	Leu	Arg	Glu	His	Lys	
					2400					2405						2410	
45	GAC	AGT	GTC	ATG	GCC	GTG	CTG	GAA	GCC	TTT	GTC	TAT	GAC	CCC	TTG	CTG	7360
	Asp	Ser	Val	Met	Ala	Val	Leu	Glu	Ala	Phe	Val	Tyr	Asp	Pro	Leu	Leu	
				2415				2420						2425			
50	AAC	TGG	AGG	CTG	ATG	GAC	ACA	AAT	ACC	AAA	GGC	AAC	AAG	CGA	TCC	CGA	7408
	Asn	Trp	Arg	Leu	Met	Asp	Thr	Asn	Thr	Lys	Gly	Asn	Lys	Arg	Ser	Arg	
			2430				2435						2440				
55	ACG	AGG	ACG	GAT	TCC	TAC	TCT	GCT	GGC	CAG	TCA	GTC	GAA	ATT	TTG	GAC	7456
	Thr	Arg	Thr	Asp	Ser	Tyr	Ser	Ala	Gly	Gln	Ser	Val	Glu	Ile	Leu	Asp	
			2445				2450					2455					
60	GGT	GTG	GAA	CTT	GGA	GAG	CCA	GCC	CAT	AAG	AAA	ACG	GGG	ACC	ACA	GTG	7504
	Gly	Val	Glu	Leu	Gly	Glu	Pro	Ala	His	Lys	Lys	Thr	Gly	Thr	Thr	Val	
		2460				2465					2470					2475	
65	CCA	GAA	TCT	ATT	CAT	TCT	TTC	ATT	GGA	GAC	GGT	TTG	GTG	AAA	CCA	GAG	7552
	Pro	Glu	Ser	Ile	His	Ser	Phe	Ile	Gly	Asp	Gly	Leu	Val	Lys	Pro	Glu	
					2480				2485							2490	
70	GCC	CTA	AAT	AAG	AAA	GCT	ATC	CAG	ATT	ATT	AAC	AGG	GTT	CGA	GAT	AAG	7600
	Ala	Leu	Asn	Lys	Lys	Ala	Ile	Gln	Ile	Ile	Asn	Arg	Val	Arg	Asp	Lys	
				2495					2500						2505		
75	CTC	ACT	GGT	CGG	GAC	TTC	TCT	CAT	GAT	GAC	ACT	TTG	GAT	GTT	CCA	ACG	7648
	Leu	Thr	Gly	Arg	Asp	Phe	Ser	His	Asp	Asp	Thr	Leu	Asp	Val	Pro	Thr	
				2510				2515					2520				
80	CAA	GTT	GAG	CTG	CTC	ATC	AAA	CAA	GCG	ACA	TCC	CAT	GAA	AAC	CTC	TGC	7696
	Gln	Val	Glu	Leu	Leu	Ile	Lys	Gln	Ala	Thr	Ser	His	Glu	Asn	Leu	Cys	
			2525				2530					2535					
85	CAG	TGC	TAT	ATT	GGC	TGG	TGC	CCT	TTC	TGG	TA	ACTGGAGG	CCCAGATGTG				7746
	Gln	Cys	Tyr	Ile	Gly	Trp	Cys	Pro	Phe	Trp							
					2540					2545							

CCCATCACGT TTTTCTGAG GCTTTTGTAC TTTAGTAAAT GCTTCCACTA AACTGAAACC 7806
 5 ATGGTGAGAA AGTTTGA CT TGTAAATAT TTTGAAATGT AAATGAAAAG AAGTACTGTA 7866
 TATTAAGAGT TGGTTTGAAC CAACTTTCTA GCTGCTGTTG AAGAATATAT TGTCAGAAAC 7926
 ACAAGGCTTG ATTTGGT 7943

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: both
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
 (B) LOCATION: 15..509

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GTGTACTATT AGCC ATG GTC AAC CCC ACC GTG TTC TTC GAC ATT GCC GTC 50
 Met Val Asn Pro Thr Val Phe Phe Asp Ile Ala Val
 1 5 10

GAC GGC GAG CCC TTG GGC CGC GTC TCC TTT GAG CTG TTT GCA GAC AAG 98
 Asp Gly Glu Pro Leu Gly Arg Val Ser Phe Glu Leu Phe Ala Asp Lys
 15 20 25

GTC CCA AAG ACA GCA GAA AAT TTT CGT GCT CTG AGC ACT GGA GAG AAA 146
 Val Pro Lys Thr Ala Glu Asn Phe Arg Ala Leu Ser Thr Gly Glu Lys
 30 35 40

GGA TTT GGT TAT AAG GGT TCC TGC TTT CAC AGA ATT ATT CCA GGG TTT 194
 Gly Phe Gly Tyr Lys Gly Ser Cys Phe His Arg Ile Ile Pro Gly Phe
 45 50 55 60

ATG TGT CAG GGT GGT GAC TTC ACA CGC CAT AAT GGC ACT GGT GGC AAG 242
 Met Cys Gln Gly Asp Phe Thr Arg His Asn Gly Thr Gly Gly Lys
 65 70 75

TCC ATC TAT GGG GAG AAA TTT GAA GAT GAG AAC TTC ATC CTA AAG CAT 290
 Ser Ile Tyr Gly Glu Lys Phe Glu Asp Glu Asn Phe Ile Leu Lys His
 80 85 90

ACG GGT CCT GGC ATC TTG TCC ATG GCA AAT GCT GGA CCC AAC ACA AAT 338
 Thr Gly Pro Gly Ile Leu Ser Met Ala Asn Ala Gly Pro Asn Thr Asn
 95 100 105

GGT TCC CAG TTT TTC ATC TGC ACT GCC AAG ACT GAG TGG TTG GAT GGC 386
 Gly Ser Gln Phe Phe Ile Cys Thr Ala Lys Thr Glu Trp Leu Asp Gly
 110 115 120

AAG CAT GTG GTG TTT GGC AAA GTG AAA GAA GGC ATG AAT ATT GTG GAG 434
 Lys His Val Val Phe Gly Lys Val Lys Glu Gly Met Asn Ile Val Glu
 125 130 135 140

GCC ATG GAG CGC TTT GGG TCC AGG AAT GGC AAG ACC AGC AAG AAG ATC 482
 Ala Met Glu Arg Phe Gly Ser Arg Asn Gly Lys Thr Ser Lys Lys Ile
 145 150 155

ACC ATT GCT GAC TGT GGA CAA CTC GAA TAAGTTTGAC TTGTGTTTAA 529
 Thr Ile Ala Asp Cys Gly Gln Leu Glu
 160 165

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TCTTAACCAC CAGATCATTC CTTCTGTAGC TCAGGAGAGC ACCCCTCCAC CCCATTGCT 589
CGCAGTATCC TAGAATCTTT GTGCTCTCGC TGCAGTCCC TTTGGGTTC ATGTTTCCT 649
TGTTCCCTCC CATGCCTAGC TGGATTGCAG AGTTAAGTTT ATGATTATGA AATAAAAACT 709
AAATAACAAT TGTC 723

5

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